



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,038	08/28/2003	Michael Haisch	0902-005	6948
42015	7590	12/18/2007		
POTOMAC PATENT GROUP PLLC P. O. BOX 270 FREDERICKSBURG, VA 22404			EXAMINER LAVARIAS, ARNEL C	
			ART UNIT 2872	PAPER NUMBER
			NOTIFICATION DATE 12/18/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tammy@ppglaw.com

<b>Office Action Summary</b>	Application No. 10/650,038	Applicant(s) HAISCH ET AL.	
	Examiner Arnel C. Lavarias	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-11, 30-32, 35, 40, 43, 53-56, 66-69 and 79-84 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-11, 30-32, 35, 40, 43, 53-56, 66-69 and 79-84 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendments to Claims 9-11, 35, 40 in the submission dated 10/18/07 are acknowledged and accepted.
2. The addition of Claims 80-84 in the submission dated 10/18/07 is acknowledged and accepted.
3. The cancellation of Claims 41-42, 44-52, 57-65, 70-78 in the submission dated 10/18/07 is acknowledged and accepted.

### ***Response to Arguments***

4. The Applicants' arguments with respect to Claims 9-11, 30-32, 35, 40, 43, 53-56, 66-69, 79 in Sections 16-22 of the Office Action dated 5/18/07, have been considered but are moot in view of the new ground(s) of rejection.
5. Claims 9-11, 30-32, 35, 40, 43, 53-56, 66-69, 79-84 are now rejected as follows.

### ***Claim Objections***

6. Claim 79 is objected to because of the following informalities:  
  
Claim 79 recites the limitation "the repeatedly displaying" in line 2. There is insufficient antecedent basis for this limitation in the claim. It is suggested that 'the' be removed to overcome this objection.

Appropriate correction is required.

*Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima (U.S. Patent No. 5865829), of record, in view of Shioda et al. (U.S. Patent No. 6661571).

Kitajima discloses a microscopy method (See Figures 8, 12; col. 8, line 53-col. 14, line 67) for visualizing a fluorescence of an object (See for example 'E' in Figure 8) to be inspected, the method comprising displaying (See light paths passing from element 13 to element 2 via 80, 80' and 35, 45 in Figure 8; col. 8, line 53-col. 14, line 67) a magnified first representation of the object for observation by a user, wherein the fluorescence of the object (See for example col. 11, line 67-col. 12, line 55) is substantially not visible in the first representation; detecting (See light paths passing from element 13 to elements 91, 91' via 80, 80', then to 90 in Figure 8; col. 8, line 53-col. 14, line 67; See also 91, 91' in Figure 8) at least one fluorescence light image of the object during a time period; storing image data corresponding to the at least one fluorescence light image of the object in a memory (See for example 160, 161 in Figure 8); accessing the stored image data corresponding to the at least one fluorescence light image of the object from the memory (See for example col. 9, line 41-col. 10, line 3); and displaying the at least one fluorescent light image of the object generated from the accessed image data after the time period has lapsed (it is noted that there is an inherent time delay between recording the images on

the camera and displaying the image on the display system) such that the at least one fluorescent light image is visible for the user and superimposed with the magnified first representation of the object. Kitajima does not explicitly disclose the at least one fluorescence light image of the object being plural images. However, generating plural sequential images of an object and displaying such images on a display or to a user is well known in the art. For example, Shioda et al. teaches a conventional medical imaging optical system (See for example Figures 22-23), in the form of a surgical microscope system), which provides simultaneous rendering of visible and fluorescent light images (See Abstract; col. 30, line 63-col. 32, line 17). In particular, Shioda et al. teaches the use of camera for the fluorescent light detection (See for example 121L, 121R in Figure 22), which acquires and mixes a plurality of video images (See for example col. 31, lines 1-14). These plurality of video images are stored and later accessed to be displayed on monitors (See for example 134L, 134R in Figure 22) so as to be superimposed with the images seen by the user through eyepieces 117L, 117R in Figure 22. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the at least one fluorescence light image of the object be plural images, as taught by Shioda et al., in the method of Kitajima, for the purpose of providing a near-real-time (as opposed to a static) display and information superimposed onto the image field viewed from the microscope by the observer.

9. Claims 79 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima in view of Shioda et al. as applied to Claim 35 above, and further in view of Khoobehi et al. (U.S. Patent No. 5976502).

Kitajima in view of Shioda et al. discloses the invention as set forth above in Claim 35, but does not explicitly disclose repeatedly displaying the recorded series of plural fluorescent light images accessed from the memory in superposition with the magnified first representation. However, Khoobehi et al. teaches a conventional method for visualizing blood flow in the eye via fluorescent particles (See for example Abstract). In particular, Khoobehi et al. teaches that the laser scanning camera system (See for example Figure 1) has the ability to store plural images recorded from the eye (See for example col. 8, lines 1-7), and access these stored plural images and repeatedly show these plural images overlaid on a second image (See col. 8, lines 24-55). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to repeatedly display the recorded series of plural fluorescent light images accessed from the memory in superposition with the magnified first representation, as taught by Khoobehi et al., in the method of Kitajima in view of Shioda et al., for the purpose of simplifying reviewing series of complex images without having to memorize or recall from one's memory, thus reducing mistakes.

10. Claims 9, 30-31, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima in view of Shioda et al.

Kitajima discloses a microscopy system for visualizing a fluorescence of a fluorescent substance in an object to be inspected (See for example Figures 1-4, 7-8, 10), wherein the microscopy system comprises a microscopy optics having a first beam path (See light paths passing from element 13 to elements 91, 91' via 80, 80', then to 90 in Figure 8; col. 8, line 53-col. 14, line 67) for optically imaging an object region onto a light detecting

component of a first camera (See 91, 91' in Figure 8) for generating first image data representing at least one image of the object region with light including wavelengths of a first wavelength range comprising a fluorescent emission wavelength of the fluorescent substance, and a second beam path (See light paths passing from element 13 to element 2 via 80, 80' and 35, 45 in Figure 8; col. 8, line 53-col. 14, line 67) for providing a magnified first representation of the object region, wherein the first representation represents images of the object regions with light including wavelengths of a second wavelength range comprising at least visible light; a memory (See 160, 161 in Figure 8) for storing a set of first image data detected by the first camera during at least a time duration; a display system (See 93, 93' in Figure 8); and a controller (See for example 66 in Figure 8) for accessing the stored set of first image data from the memory and for supplying at least one second representation generated from at least a subseries of the stored set of first image data to the display system so as to cause the display system to sequentially display the at least one second representation generated from at least the subseries of the stored set of first image data such that the at least one second representation is displayed in superposition with the first representation for observation by a user (See also Figure 12). Kitajima additionally discloses the second beam path comprising at least one ocular for representing the magnified first representation of the object region (See 35, 45 in Figure 8); the display system being further configured to superimpose the at least one second representation with the second beam path directed to the ocular (See Figure 8; col. 53-col. 14, line 67); and the fluorescent substance comprises indocyanine green (See col. 12, lines 1-2). Kitajima does not explicitly

disclose the at least one second representation being plural second representations, and the display system sequentially displaying the plural second representations. However, generating plural sequential images of an object and displaying such images on a display or to a user is well known in the art. For example, Shioda et al. teaches a conventional medical imaging optical system (See for example Figures 22-23), in the form of a surgical microscope system), which provides simultaneous rendering of visible and fluorescent light images (See Abstract; col. 30, line 63-col. 32, line 17). In particular, Shioda et al. teaches the use of camera for the fluorescent light detection (See for example 121L, 121R in Figure 22), which acquires and mixes a plurality of video images (See for example col. 31, lines 1-14). These plurality of video images are stored and later accessed to be displayed on monitors (See for example 134L, 134R in Figure 22) so as to be superimposed with the images seen by the user through eyepieces 117L, 117R in Figure 22. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the at least one second representation be plural second representations, and the display system sequentially display the plural second representations, as taught by Shioda et al., in the method of Kitajima, for the purpose of providing a near-real-time (as opposed to a static) display and information superimposed onto the image field viewed from the microscope by the observer.

11. Claims 10-11, 53-54, 56, 66-67, 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima in view of Shioda et al. and Furusawa et al. (U.S. Patent No. 6371908), of record.



Kitajima discloses a microscopy system for visualizing a fluorescence of a fluorescent substance in an object to be inspected (See for example Figures 1-4, 7-8, 10), wherein the microscopy system comprises a microscopy optics having a first beam path (See light paths passing from element 13 to elements 91, 91' via 80, 80', then to 90 in Figure 8; col. 8, line 53-col. 14, line 67) for optically imaging an object region onto a light detecting component of a first camera (See 91, 91' in Figure 8) for generating first image data representing at least one image of the object region with light including wavelengths of a first wavelength range comprising a fluorescent emission wavelength of the fluorescent substance, and a second beam path (See light paths passing from element 13 to element 2 via 80, 80' and 35, 45 in Figure 8; col. 8, line 53-col. 14, line 67) for providing a magnified first representation of the object region, wherein the first representation represents images of the object regions with light including wavelengths of a second wavelength range comprising at least visible light; a memory (See 160, 161 in Figure 8) for storing a set of first image data detected by the first camera during at least a time duration; a display system (See 93, 93' in Figure 8); and a controller (See for example 66 in Figure 8) for accessing the stored set of first image data from the memory and for supplying at least one second representation generated from at least a subseries of the stored set of first image data to the display system so as to cause the display system to sequentially display the at least one second representation generated from at least the subseries of the stored set of first image data such that the at least one second representation is displayed in superposition with the first representation for observation by a user (See also Figure 12). Kitajima additionally discloses the second beam path

comprising at least one ocular for representing the magnified first representation of the object region (See 35, 45 in Figure 8); the display system being further configured to superimpose the at least one second representation with the second beam path directed to the ocular (See Figure 8; col. 53-col. 14, line 67); and the fluorescent substance comprises indocyanine green (See col. 12, lines 1-2). Kitajima does not explicitly disclose the at least one second representation being plural second representations, the display system sequentially displaying the plural second representations, and the controller configured to select the subseries of the set of first image data from the set of first image data based on intensities or differences in intensities of the plural images represented by the first image data. However, generating plural sequential images of an object and displaying such images on a display or to a user is well known in the art. For example, Shioda et al. teaches a conventional medical imaging optical system (See for example Figures 22-23), in the form of a surgical microscope system), which provides simultaneous rendering of visible and fluorescent light images (See Abstract; col. 30, line 63-col. 32, line 17). In particular, Shioda et al. teaches the use of camera for the fluorescent light detection (See for example 121L, 121R in Figure 22), which acquires and mixes a plurality of video images (See for example col. 31, lines 1-14). These plurality of video images are stored and later accessed to be displayed on monitors (See for example 134L, 134R in Figure 22) so as to be superimposed with the images seen by the user through eyepieces 117L, 117R in Figure 22. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the at least one second representation be plural second representations, and the display system

sequentially display the plural second representations, as taught by Shioda et al., in the method of Kitajima, for the purpose of providing a near-real-time (as opposed to a static) display and information superimposed onto the image field viewed from the microscope by the observer. The combined teachings of Kitajima and Shioda et al. do not explicitly disclose the controller configured to select the subseries of the set of first image data from the set of first image data based on intensities or differences in intensities of the plural images represented by the first image data. However, Furusawa et al. teaches a conventional color observation system for use in an optical imaging system (See Figures 1-4), such as an endoscope, wherein fluorescence image data recorded from the CCD camera (See 17 in Figure 1) is sent to a video processor (See 13 in Figure 1). The video processor is configured to select a subseries from the image data based on differences in intensities (particularly with respect to a baseline level) of the images in the image data (See Figures 5-14; col. 7, line 32-col. 11, line 59), and display a composite visible/fluorescence image. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the controller of Kitajima in view of Shioda et al., be configured to select the subset of the set of first image data from the set of first image data based on intensities or differences in intensities of the plural images represented by the first image data, as taught by Furusawa et al., to simplify detection and identification of abnormal conditions of the observation object in the composite images.

12. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima in view of Shioda et al. as applied to Claim 9 above, and further in view of Imaizumi et al. (JP 10325798A), of record.

Kitajima in view of Shioda et al. discloses the invention as set forth above in Claim 9, except for the first beam path comprising at least one light detecting component of a second camera for generating second image data representing images of the object region with visible light. However, Imaizumi et al. discloses a conventional microscope apparatus (See for example Figure 1), including a first beam path (See light paths passing from element 2 to element 63, then to 70, 72, 71 in Figure 1) for optically imaging an object region onto a light detecting component of a first camera (See 71 in Figure 1) for generating first image data representing images of the object region with light including wavelengths of a first wavelength range comprising a fluorescent emission wavelength of the fluorescent substance, and a second beam path (See light paths passing from element 2 to element 64 in Figure 1) for providing a magnified first representation of the object region, wherein the first representation represents images of the object regions with light including wavelengths of a second wavelength range comprising at least visible light. In addition, the first beam path also includes a light detecting component of a second camera for generating second image data representing images of the object region with visible light (See 72 in Figure 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first path of the microscope system of Kitajima in view of Shioda et al., further include at least one light detecting component of a second camera for generating second image data representing

images of the object region with visible light, as taught by Imaizumi et al., for the purpose of providing simultaneous observation and storage of both fluorescence and visible light image data, both of which may be played back at a later time.

13. Claims 55 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima in view of Shioda et al. and Furusawa et al. as applied to Claims 10-11 above, and further in view of Imaizumi et al.

Kitajima in view of Shioda et al. and Furusawa et al. discloses the invention as set forth above in Claims 10-11, except for the first beam path comprising at least one light detecting component of a second camera for generating second image data representing images of the object region with visible light. However, Imaizumi et al. discloses a conventional microscope apparatus (See for example Figure 1), including a first beam path (See light paths passing from element 2 to element 63, then to 70, 72, 71 in Figure 1) for optically imaging an object region onto a light detecting component of a first camera (See 71 in Figure 1) for generating first image data representing images of the object region with light including wavelengths of a first wavelength range comprising a fluorescent emission wavelength of the fluorescent substance, and a second beam path (See light paths passing from element 2 to element 64 in Figure 1) for providing a magnified first representation of the object region, wherein the first representation represents images of the object regions with light including wavelengths of a second wavelength range comprising at least visible light. In addition, the first beam path also includes a light detecting component of a second camera for generating second image data representing images of the object region with visible light (See 72 in Figure 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first path of the microscope system of Kitajima in view of Shioda et al. and Furusawa et al., further include at least one light detecting component of a second camera for generating second image data representing images of the object region with visible light, as taught by Imaizumi et al., for the purpose of providing simultaneous observation and storage of both fluorescence and visible light image data, both of which may be played back at a later time.

14. Claim 80 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima in view of Shioda et al. as applied to Claim 9 above, and further in view of Khoobehi et al.

Kitajima in view of Shioda et al. discloses the invention as set forth above in Claim 9, but does not explicitly disclose the controller repeatedly displaying the recorded series of plural fluorescent light images accessed from the memory in superposition with the magnified first representation. However, Khoobehi et al. teaches a conventional method for visualizing blood flow in the eye via fluorescent particles (See for example Abstract). In particular, Khoobehi et al. teaches that the laser scanning camera system (See for example Figure 1) has the ability to store plural images recorded from the eye (See for example col. 8, lines 1-7), and access these stored plural images and repeatedly show these plural images overlaid on a second image (See col. 8, lines 24-55). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the controller repeatedly display the recorded series of plural fluorescent light images accessed from the memory in superposition with the magnified first representation, as taught by Khoobehi et al., in the apparatus of Kitajima in view of

Shioda et al., for the purpose of simplifying reviewing series of complex images without having to memorize or recall from one's memory, thus reducing mistakes.

15. Claims 81 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitajima in view of Shioda et al. and Furusawa et al. as applied to Claims 10-11 above, and further in view of Khoobehi et al.

Kitajima in view of Shioda et al. and Furusawa et al. discloses the invention as set forth above in Claims 10-11, but does not explicitly disclose the controller repeatedly displaying the recorded series of plural fluorescent light images accessed from the memory in superposition with the magnified first representation. However, Khoobehi et al. teaches a conventional method for visualizing blood flow in the eye via fluorescent particles (See for example Abstract). In particular, Khoobehi et al. teaches that the laser scanning camera system (See for example Figure 1) has the ability to store plural images recorded from the eye (See for example col. 8, lines 1-7), and access these stored plural images and repeatedly show these plural images overlaid on a second image (See col. 8, lines 24-55). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the controller repeatedly display the recorded series of plural fluorescent light images accessed from the memory in superposition with the magnified first representation, as taught by Khoobehi et al., in the apparatus of Kitajima in view of Shioda et al. and Furusawa et al., for the purpose of simplifying reviewing series of complex images without having to memorize or recall from one's memory, thus reducing mistakes.

16. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chari et al. (WO01/22870A1), of record, in view of Kitajima, Shioda et al., and Ohishi et al. (U.S. Patent No. 6721590), of record.

Chari et al. discloses a method of treating an aneurysm of a patient (See Figure 1; Page 5, line 31-Page 6, line 4; Page 7, lines 5-27; Page 8, line 28-Page 11, line 10), the method comprising administering a therapy to an aneurysm; injecting indocyanine green into the patient; detecting at least one fluorescence image of at least one artery adjacent to the aneurysm under study (It is noted that the injection and generation steps may be performed before, as well as after, the administration of the therapy to the aneurysm, See Page 7, lines 5-27); assessing vascular blood flow of the at least one artery based on the at least one fluorescence image; assessing whether the indocyanine green accumulates in the aneurysm sac based on the at least one fluorescence image (It is noted that this would have been evident just based on review of the fluorescence image since a fluorescence signal would indicate presence of indocyanine green); and assessing a complete blocking of the aneurysm if the indocyanine green does not accumulate in the aneurysm sac (See Figure 1, Page 7, lines 5-27; it is noted that this particular limitation is an 'if-then' conditional statement, and that the assessment is not required if accumulation of ICG occurs in the aneurysm; further, this would have been evident just based on review of the fluorescence image since a fluorescence signal would indicate presence of indocyanine green). Chari et al. does not explicitly disclose the specific steps of administering a therapy to an aneurysm including clipping an aneurysm sac of the aneurysm using a clip; generating a visible light image of the object region; storing image data corresponding to



the series of plural fluorescent light images in a memory; accessing the stored image data corresponding to the series of plural fluorescent light images from the memory; and displaying the series of plural fluorescent light images generated from the accessed image data such that the series of plural fluorescent light images is visible for the user and superimposed with the visible light image of the object region.

However, Kitajima discloses a microscopy method (See Figures 8, 12; col. 8, line 53-col. 14, line 67) for visualizing a fluorescence of an object (See for example 'E' in Figure 8) to be inspected, the method comprising displaying (See light paths passing from element 13 to element 2 via 80, 80' and 35, 45 in Figure 8; col. 8, line 53-col. 14, line 67) a magnified first representation of the object for observation by a user, wherein the fluorescence of the object (See for example col. 11, line 67-col. 12, line 55) is substantially not visible in the first representation; detecting (See light paths passing from element 13 to elements 91, 91' via 80, 80', then to 90 in Figure 8; col. 8, line 53-col. 14, line 67; See also 91, 91' in Figure 8) at least one fluorescence light image of the object during a time period; storing image data corresponding to the at least one fluorescence light image of the object in a memory (See for example 160, 161 in Figure 8); accessing the stored image data corresponding to the at least one fluorescence light image of the object from the memory (See for example col. 9, line 41-col. 10, line 3); and displaying the at least one fluorescent light image of the object generated from the accessed image data after the time period has lapsed (it is noted that there is an inherent time delay between recording the images on the camera and displaying the image on the display system) such that the at least one fluorescent light image is visible for the user and

superimposed with the magnified first representation of the object. Further, Shioda et al. teaches a conventional medical imaging optical system (See for example Figures 22-23), in the form of a surgical microscope system), which provides simultaneous rendering of visible and fluorescent light images (See Abstract; col. 30, line 63-col. 32, line 17). In particular, Shioda et al. teaches the use of camera for the fluorescent light detection (See for example 121L, 121R in Figure 22), which acquires and mixes a plurality of video images (See for example col. 31, lines 1-14). These plurality of video images are stored and later accessed to be displayed on monitors (See for example 134L, 134R in Figure 22) so as to be superimposed with the images seen by the user through eyepieces 117L, 117R in Figure 22. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to generate a visible light image of the object region; store image data corresponding to the series of plural fluorescent light images in a memory; access the stored image data corresponding to the series of plural fluorescent light images from the memory; and display the series of plural fluorescent light images generated from the accessed image data such that the series of plural fluorescent light images is visible for the user and superimposed with the visible light image of the object region, as taught by Kitajima and Shioda et al., in the method of Chari et al., for the purpose of providing a near-real-time (as opposed to a static) display and information superimposed onto the image field viewed from the microscope by the observer, while additionally providing the operator with additional information in the form of visible light information (e.g. blood vessel structure) in addition to the fluorescence light information (e.g. blood flow information).

The combined teachings of Chari et al., Kitajima, and Shioda et al. does not explicitly disclose the step of administering a therapy to an aneurism including clipping an aneurysm sac of the aneurysm using a clip. However, Ohishi et al. teaches various therapeutic methods of aneurysms, including clipping and insertion of a coil-like occluding material into the aneurysm (See col. 1, line 6-28). These therapeutic methods may be done in conjunction with fluorescence imaging techniques (See Figures 1, 3-4), so as to assess the blood flow, or lack thereof, to the aneurysm (See Figures 1, 3-4; col. 4, line 19-col. 9, line 10, and especially col. 7, lines 29-col. 8, line 6). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the step of administering a therapy to an aneurysm, as disclosed by Chari et al., Kitajima, and Shioda et al., include clipping an aneurysm sac of the aneurysm using a clip, as taught by Ohishi et al., for the purpose of preventing blood from flowing into the aneurysm, which may burst due to increased blood pressure and cause injury or death.

17. Claim 84 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chari et al. in view of Kitajima, Shioda et al., and Ohishi et al. as applied to Claim 80 above, and further in view of Khoobehi et al.

Chari et al. in view of Kitajima, Shioda et al., and Ohishi et al. discloses the invention as set forth above in Claim 80, but does not explicitly disclose repeatedly displaying the recorded series of plural fluorescent light images accessed from the memory in superposition with the magnified first representation. However, Khoobehi et al. teaches a conventional method for visualizing blood flow in the eye via fluorescent particles (See for example Abstract). In particular, Khoobehi et al. teaches that the laser scanning

camera system (See for example Figure 1) has the ability to store plural images recorded from the eye (See for example col. 8, lines 1-7), and access these stored plural images and repeatedly show these plural images overlaid on a second image (See col. 8, lines 24-55). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to repeatedly display the recorded series of plural fluorescent light images accessed from the memory in superposition with the magnified first representation, as taught by Khoobehi et al., in the method of Chari et al. in view of Kitajima, Shioda et al., and Ohishi et al., for the purpose of simplifying reviewing series of complex images without having to memorize or recall from one's memory, thus reducing mistakes.

### ***Conclusion***

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias  
Primary Examiner  
Group Art Unit 2872  
12/10/07

  
ARNEL LAVARIAS  
PRIMARY PATENT EXAMINER